



## Toxics Reduction Act – Public Summary Report – 2014 Reporting Year

### Ford Essex Engine Plant

#### A. FACILITY INFORMATION

The Essex Engine Plant machines and assembles engine components to produce complete automotive engine assemblies, including the 5.0L V8 engine. The main facility processes consist of machining, assembly, and engine research, development and testing.

<b>Address</b>	1 Quality Way Windsor, Ontario N9A 6X3
<b>Spatial Coordinates</b>	340918 m E, 4684629 m N
<b>NPRI/MOECC IDs</b>	NPRI = 3886 MOECC = 6376
<b>No. of Employees</b>	857
<b>Primary Operation</b>	Engine Machining and Assembly Plant, Engine Research, Development and Testing
<b>NAICS Code</b>	33 – Manufacturing 3363 – Motor Vehicle Parts Manufacturing 336310 – Motor Vehicle Gasoline Engine and Engine Parts Manufacturing
<b>Facility Contact</b>	Mr. Robert Niemi Ford Motor Company Environmental Quality Office 290 Town Center Drive Suite 800 Dearborn, Michigan 49126 Phone: (313) 206-8034 Email: rniemi1@ford.com
<b>Parent Company</b>	Ford Motor Company of Canada Limited 100 The Canadian Road Oakville, Ontario L6J 5E4



## B. TOXIC SUBSTANCE ACCOUNTING

Substances Reported	CAS#	Primary Use/Source
<i>NPRI Part 1 Substances</i>		
Copper (and its compounds)	n/a	Machining/assembly
Manganese (and its compounds)	n/a	Machining/assembly
<i>NPRI Part 4 Substances</i>		
Oxides of Nitrogen	11104-93-1	Dynamometer testing/fuel combustion
Carbon Monoxide	630-08-0	Dynamometer testing/fuel combustion
Particulate Matter ≤ 10 micron (PM10)	n/a	Machining/assembly/dynamometer testing/fuel combustion/cooling towers
Particulate Matter ≤ 2.5 micron (PM2.5)	n/a	Machining/assembly/dynamometer testing/fuel combustion/cooling towers

### Accounting Details

Substance/Category	Accounting Quantities				Reason for Change
	2013	2014	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
<b>Copper (and its compounds)</b>					
Used	320.0	328.9	8.9	↑3%	n/a
Created	0	0	0.0	0%	n/a
Contained in Product	257.6	268.1	10.5	↑4%	n/a
Released to Air	0.083	0.085	0.002	↑2%	n/a
Released to Water	0	0	0.0	0%	n/a
Transfer for Disposal	0.007	0.006	0.001	↓14%	Decreased copper concentration in OWTP effluent resulted in a decreased disposal.



Substance/Category	Accounting Quantities				Reason for Change
	2013	2014	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Transfer for Recycle	55.817	56.157	0.34	↑1%	n/a
<b>Manganese (and its compounds)</b>					
Used	225.5	226.6	0.7	↑0.5%	n/a
Created	0	0	0.0	0%	n/a
Contained in Product	166.7	169.1	0.8	↑1%	n/a
Released to Air	0.021	0.022	0.001	↑5%	n/a
Released to Water	0	0	0.0	0%	n/a
Transfer for Disposal	0.003	0.004	0.001	↑33%	Increased manganese concentration in OWTP effluent resulted in an increased disposal.
Transfer for Recycle	63.192	59.205	3.987	↓6%	n/a
<b>Oxides of Nitrogen</b>					
Used	0	0	0.0	n/a	n/a
Created	62.329	63.861	1.532	↑2%	n/a
Released to Air	62.329	63.861	1.532	↑2%	n/a
<b>Carbon Monoxide</b>					
Used	0	0	0.0	n/a	n/a
Created	311.883	318.816	6.933	↑2%	n/a
Released to Air	311.883	318.816	6.933	↑2%	n/a
<b>Particulate Matter ≤ 10 micron (PM10)</b>					
Used	0	0	0.0	n/a	n/a
Created	74.753	76.096	1.343	↑2%	n/a
Released to Air	7.683	7.734	0.051	↑1%	n/a
<b>Particulate Matter ≤ 2.5 micron (PM2.5)</b>					
Used	0	0	0.0	n/a	n/a
Created	38.600	39.349	0.749	↑2%	n/a
Released to Air	6.830	6.966	0.136	↑2%	n/a



## C. TOXIC SUBSTANCE REDUCTION PLANNING

### Objectives & Targets

Substance	Objectives & Targets	Reduction Option Progress
Copper (and its compounds)	Reduce the use of Copper (and its compounds) by implementing improved operating procedures and training efforts with a goal of improving department specific first time through numbers.	In 2014, engine assembly production at the EEP decreased by approximately 1.3%, crankshaft and connecting rod department production also decreased slightly (<1%), while the block department production increased by approximately 7.6%, resulting in an overall increase in usage of metal compounds. First time through numbers for the site decreased by approximately 0.4%. All team leaders and process coaches participated in the Ford Production System (FPS) training which included a review of all FPS elements (safety, quality, delivery, cost, people, maintenance and environment).
Manganese (and its compounds)	Reduce the use of Manganese (and its compounds) by implementing improved operating procedures and training efforts with a goal of improving department specific first time through numbers.	
Oxides of Nitrogen and Carbon Monoxide	Reduce the creation of Oxides of Nitrogen and Carbon Monoxide by investigating reduced temperature set points for natural gas equipment and instituting operating practices to reduce run-time.	Adjustment of run time based on indoor and outdoor temperatures and forecasts is completed continuously. Large boilers are being shut down earlier in the year and re-started later in the year than has typically been done in the past. Small door heaters are used for supplemental heat if needed.
Particulate Matter $\leq$ 10 micron (PM10) and Particulate Matter $\leq$ 2.5 micron (PM2.5)	Reduce the creation of PM10 and PM2.5 by replacing/upgrading a cooling tower (CT-1 or CT-3) at the site and by implementing improved operating procedures and training efforts with a goal of improving department specific first time through numbers.	Cooling tower replacement was delayed until 2015. See above comments for copper and manganese for first time through numbers and training and improved operating procedure updates.



## **Annual Report Certification Statement**

As of May 31, 2015, I certify that I have read the report(s) on the toxic substance reduction plan(s) for the toxic substances included above, and am familiar with its/their contents and to my knowledge the information contained in the report(s) is factually accurate and the report complies/reports comply with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) made under the Act.

Shaun Whitehead, Site Operations Manager

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